

1.1 Science and the Natural World

Lesson Quiz

Name _____ Class _____ Date _____

Multiple Choice

Circle the letter of the correct choice.

1. Which area of Earth science includes the study of ancient organisms?
 - (a) astronomy
 - (b) meteorology
 - (c) geology
 - (d) paleontology
2. Testing a(n) _____ involves performing a(n) _____.
 - (a) experiment, observation
 - (b) hypothesis, experiment
 - (c) observation, hypothesis
 - (d) conclusion, prediction
3. Scientists must understand that
 - (a) science cannot provide answers to all questions.
 - (b) scientific ideas are fact, and can never be revised.
 - (c) sound scientific ideas are frequently altered.
 - (d) nature is a constantly changing wonder, difficult to understand.
4. Natural studies can be more difficult than laboratory studies because scientists
 - (a) cannot control which factor is the dependent variable.
 - (b) cannot control factors that might affect the variables they are investigating.
 - (c) cannot determine which data to analyze.
 - (d) cannot determine the best time of day to collect their data.
5. Which is the correct order in a scientific investigation?
 - (a) ask a question, test the hypothesis, communicate results, draw conclusions
 - (b) make observations, ask a question, form a hypothesis, test the hypothesis
 - (c) draw conclusions, ask a question, form a hypothesis, test the hypothesis
 - (d) ask a question, make observations, test the hypothesis, draw conclusions
6. A scientific theory is
 - (a) an educated guess.
 - (b) a guess about how or why something happens.
 - (c) a statement that describes what always happens under certain conditions in nature.
 - (d) an explanation for events that are generally accepted as true.
7. *Life on Earth was created through a method other than evolution.* This statement
 - (a) is an example of a hypothesis.
 - (b) can be proved using the scientific method.
 - (c) is outside the realm of science.
 - (d) is a scientific observation.
8. An example of a dependent variable is

- (a) the amount of light plants are exposed to each day during an experimental study.
 - (b) the amount plants grow under specific conditions during an experimental study.
 - (c) the amount of fertilizer given to plants during an experimental study.
 - (d) the amount of water given to plants each day during an experimental study.
9. Examples of scientific models include
- (a) a diagram of a food chain.
 - (b) a map of the solar system.
 - (c) a model of an atom showing the location of the nucleus and the electrons.
 - (d) all of the above.
10. Science
- (a) is a way of gaining knowledge about the natural world.
 - (b) is done by following the scientific method.
 - (c) is done through scientific investigations.
 - (d) all of the above
11. *Science cannot answer all questions.*
- (a) The above statement is true because science cannot answer matters of belief.
 - (b) The above statement is true because all science is based on logic.
 - (c) The above statement is false because science can prove that life evolves over time.
 - (d) The above statement is false because science is based on observations and evidence.
12. A main difference between a scientific theory and a hypothesis is that
- (a) the theory has been repeatedly tested and proven.
 - (b) the theory must be based on scientific knowledge.
 - (c) the theory is a possible answer to a scientific question.
 - (d) all of the above

True or False

Write true if the statement is true or false if the statement is false.

- _____ 13. A scientific theory is always supported by a great deal of evidence.
- _____ 14. The scientific method always begins by asking a question.
- _____ 15. Science can be used to answer all questions.
- _____ 16. Under certain conditions, a scientific law is always true.
- _____ 17. A good hypothesis is always correct.

Fill in the Blanks

Fill in the blank with the term that best completes the sentence.

18. A(n) _____ tells what will happen under certain conditions.
19. A(n) _____ is a special type of scientific investigation.
20. The affected variable in an experiment is the _____ variable.
21. A(n) _____, a possible answer to a scientific question, must be based on scientific knowledge.
22. The final step in the scientific method is _____.
23. Science is a distinctive way of gaining knowledge about the _____.
24. Evidence that _____ with your prediction supports your hypothesis.

25. The theory of evolution and the cell theory are well known scientific _____.

Short Answer

Answer each question in the space provided.

26. What is a hypothesis? Give an example and describe how a scientist would try to prove the hypothesis.

27. What is a scientific theory? Describe the importance of a scientific theory. Give an example.